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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,575	10/09/2003	Haochuan Jiang	GEMS 0216 PA	2574
27256	7590	05/08/2007	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034			HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER
			1731	
			MAIL DATE	DELIVERY MODE
			05/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/605,575	JIANG, HAOCHUAN	
	Examiner	Art Unit	
	John Hoffmann	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) 17-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**Corrected/supplemental DETAILED ACTION**

This letter more clearly reflects the basis for the reject. It does not include a rejection of cancelled claim 5. It also now reflects that claim 1 has been amended to requiring sintering tungsten powder, rather than "high-z" powder.

***Election/Restrictions***

This application contains claims 17-22 are drawn to an invention nonelected with traverse in Paper of 4/29/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 and 6-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Examiner could find no support for the claim 12, "sintering a high-z powder and a glass powder mixture to form a first collimator tube".

First it is noted that there is no mention of any "mixture" or "high-z powder" in the specification. Second, the only mention of any glass powder is at [0018] which refers to "the glass powder" but there is no prior mention of this powder: but there is no indication that it is used to form a collimator tube. Moreover, the only prior mention of glass is "high-z glass" (also of [0018]), thus it is deemed that the tungsten powder embodiment is directed to adding tungsten to *the (high-z) glass*.

Third, as per at least claim 4: the tube is glass, but as evidenced by MacCragh 3713816, when silica and tungsten powders are sintered together, the result is a cerment. Thus, MacCragh suggests that to one of ordinary skill reading the present disclosure would interpret that the "powder" embodiment does not result in a glass tube. Thus, the disclosure fails to reasonably convey that at the time of filing that applicants had possession of forming a glass tube by mixing the two powders.

Fourth, as per MPEP 2163 II) A) 2) a) ii)

>The disclosure of only one species encompassed within a genus adequately describes a claim directed to that genus only if the disclosure "indicates that the patentee has invented species sufficient to constitute the gen[us]." See Enzo Biochem, 323 F.3d at 966, 63 USPQ2d at 1615

Thus for the "high-z powder" genus, applicant's disclosure of only one specie (tungsten powder) does not indicate that patentee had invented species sufficient to constitute the genus. [0018] refers to different embodiments. The last embodiment is directed to sintering tungsten metal powder – there is no other mention or even

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suggestion of other metals, or other powders. Thus there is no indication that applicant had invented other species which would be sufficient to constitute the genus.

Also, there is no support for the dependent claims which call for a glass tube: because there is no disclosure of any glass tube that is made by two powders. The only disclosure of two powders is for the tungsten embodiment – there is nothing which suggests that such results in a glass. As per MacCragh – the result is a cermet not a glass. Thus it is presumed that one of ordinary skill would NOT interpret that the sintering of tungsten with glass would result in glass.

Claim 9: Examiner could not find anything remotely suggestive of the new limitations added to claim 9.

Claims 4 and 6: as per [0018], there are various embodiments. Claim 1 is directed to a/the powder embodiments. But claims 4 and 6 are directed to other embodiments. There is no basis for combining the embodiments, especially when the powder is described as being “another” embodiment.

Claim 1: there is no support for the “glass powder mixture”.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-4 and 6- 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 requires sintering a "high-z powder and a glass powder mixture". Examiner cannot tell if it requires a "glass powder mixture" that is combined with the tungsten, or if it requires a mixture comprising the two powders (glass and high-z). There is no mention of any mixture in the specification so one cannot turn to the specification to tell what is meant.

Claim 1 requires sintering "tungsten and a glass powder mixture". Examiner cannot tell if it requires a "glass powder mixture" that is combined with the tungsten, or if it requires a mixture comprising the two powders (glass and tungsten). There is no mention of any mixture in the specification so one cannot turn to the specification to tell what is meant.

The term "high-z" is indefinite as to its meaning. Examiner sees no indication, guideline or definition in the specification as to what constitutes a "high" level of z. Likewise, such does not appear to be an art recognized term. It is a "word of degree" which is imprecise unless a definition or guideline has been set forth in the specification or the term is otherwise well known in the art. See Seattle Box Co. v. Industrial Crating and Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984). Accordingly, it is determined that one of ordinary skill in this art would not have been

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apprised of the scope of claims and therefore, determined that the claims are indefinite and fail to meet the requirement of 35 U.S.C. 5 112, second paragraph.

### ***Response to Arguments***

Applicant's arguments filed 12/12/2006 have been fully considered but they are not persuasive.

Applicant argues there is support for the sintering a high-z-powder...step by referring to the disclosure regarding the metal tungsten powder. This argument is only relevant to newly amended claim 1 – but does not support the sintering step of claim 12. Applicant does not establish any connection between the tungsten powder and the high-z powder.

The arguments indicate the Office made an assertion that glass powder and tungsten powder cannot be sintered. Examiner could not find any such assertion, nor does Applicant point out where this assertion is made. Examiner notes that if examiner thought the invention could not be made, Examiner would have made a non-enablement rejection. No such rejection exists. The disclosed invention is fully enabled.

Regarding claim 9, applicant directs examiner to the specification. However applicant did not point to where in the specification Examiner should look. Examiner reviewed the specification when the rejection was made and could not find support and still cannot.



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Regarding claims 4 and 6 it is argued that sintering the powders "can be sintered into a high-z glass tube (see above)". Examiner reviewed the "above" and could not see any mention of a high-z tube. Yes, there is creation of a tube – but there is nothing which supports the conclusion the tube is "high-z"; examiner could not even find the term "high-z" anywhere in the "above".

As to the assertion that there is "no conflict between the tungsten powder additive and the other additives" - this is not understood. No rejection is based on a "conflict" and examiner is unsure what this might mean.

As to the encouragement for review other resources – such is not persuasive. It does not point out any specific error in the rejection. Examiner previously considered various references (in addition to the file wrapper) in trying to determine what the claim terms mean – nothing that applicant argues regarding other resources reasonably suggest that they have a definition. There is no evidence in application (nor is Examiner aware of any evidence) that the words "high-z" have any art-recognized meaning. Nor is there any guidance or definition in the specification that would allow one of ordinary skill in the art to understand the meaning of the words "high-z".

Indeed, applicant has not referred to any portion of the specification or any evidence to define the scope of these words. Accordingly, it is determine that one of ordinary skill in this art would not have been apprised of the scope of claims and Therefore fail to meet the requirement of 35 U.S.C. 5 112, second paragraph. Nothing suggests as to what level of z is considered "high" and what is not "high". For example, one would not be able to ascertain whether 1% tungsten is "high" or not.



### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

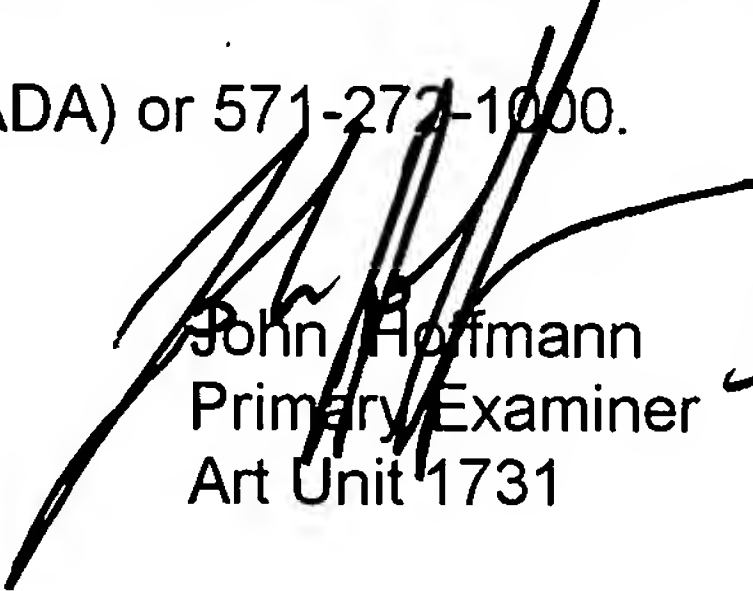
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

5-4-07

jmh